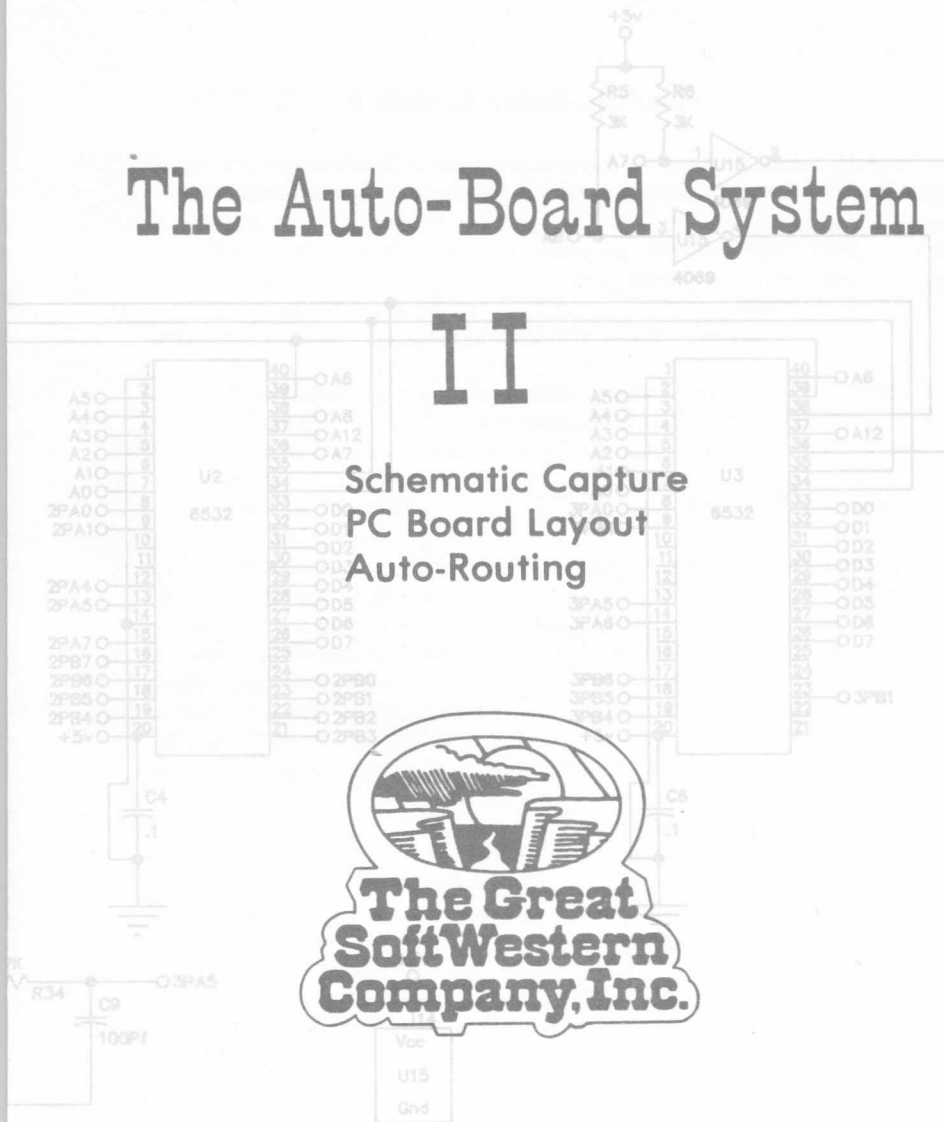


# The Auto-Board System

## II

Schematic Capture  
PC Board Layout  
Auto-Routing



We have a history of listening to the wants and needs of the PCB design community. When we first introduced The Auto-Router in mid-1985, we responded to requests for schematic capture and board layout with The Auto-Board System in October, 1985. Since that time, the requests have been flowing into our office for higher resolution routing, more control of the routing design rules, variable trace and component pad sizes, surface mount technology capabilities and multi-layer routing. Well, we've responded again with . . .

## The Auto-Board System II

- The Auto-Board System II is a companion piece of software for AutoCAD (trademark of Autodesk, Inc.) which covers the design activities of

Schematic Capture  
Component Placement  
Auto-Routing

(Surface-Mount and Multi-Layer extensions are available)

All graphics and peripheral device interfaces are provided by AutoCAD. If your system (MS-DOS, 640K memory and hard disk) is capable of running AutoCAD 2.5, it will run The Auto-Board System II.

### Schematic Capture

With the schematic capture module, the designer can use the facilities of AutoCAD to enter the details of a circuit's schematic diagram, edit it and save it. A collection of menus aids the designer in the selection and naming of symbols. The Auto-Board System II software uses the AutoCAD files to generate a net list. The net list is in the form required to direct the actions of the auto-router. Features of the module are:

- Pick and place symbols from screen and tablet menus
- Expandable and multiple library features
- Generic library included
- Source code provided (AutoCAD script format)
- Schematics may be spread over several drawings

### Component Placement

The Component Placement package provides the PCB designer with the software, menus and part outlines to assist in the definition of the physical layout of the circuit. AutoCAD is used as the vehicle for picking and placing parts, defining edge connectors and headers and masking board areas with the confines of the PCB area. The Auto-Board System software uses the AutoCAD output files to generate part definitions and locations for the auto-router software. Features of this package are:

- Pick and place parts from a generous library
- Memory array definition
- "New and improved" buss definition
- Edge connectors with 100, 125 and 156 spacing
- Source code (AutoCAD script) of library parts included

## Auto-Routing

The auto-router for The Auto-Board System II is a fine resolution router with user specified design rule parameters. The router is capable of routing in an area of 16" by 16" with 0.001 resolution. Other resolutions can be attained by changing the scaling factors in the database and parts library. The following features are included in the basic level of the auto-router:

- User defined pad-to-via clearance
- User defined trace-to-trace clearance
- User defined trace-to-pad clearance
- User defined pad sizes on parts (length and width)
- Trace widths and clearances can be defined in the net list
- Time-out limits can be set for each routing cycle
- Optimizations:
  - Via reduction and layer swapping of traces
  - Rip-up and re-routing of multiple segment traces
- Single-sided routing can be requested
- User defined routing "coarseness"
- Capable of routing two traces between pads

To add to the usefulness of this new router, we are making two routing extensions available.

### Advanced Routing Extension-1 Surface Mount Devices

This advanced version of the auto-router includes library and software support for the use of surface mounted devices. Precautions in routing include checking that vias do not pass through the surface pad area; allowing a condition that could cause solder to be drawn away from the mounting pad.

### Advanced Routing Extension-2 Multi-Layer Routing

This advanced version of the auto-router activates the design rule checking for multi-layer routing. The routing algorithm is designed for running traces on programmed layer pairs. Although it is not necessary to route on adjacent layers, blind vias can be used (when selected) for feedthrough to adjacent layers. Power and Ground layers may also be designated for reserved routing. The following features are included with this extension:

- Use of 1 to 16 programmable layers
- User defined routing layer pairs
- User switch for use of blind vias
- User defined layers for power and ground

The Auto-Board System II is designed to operate with AutoCAD 2.18 ADE-2. The optional use of polylines in component placement buss definition, memory array routing and auto-routing will require the use of ADE-3. The Auto-Board System is also compatible with AutoCAD 2.5 which may be required for some advanced features.

## PRICES

### Auto-Board System 2.1

Demo

US \$2500

US \$25

### Auto-Board System 2.1 with: Fine Line Multi-Layer, & Tool Kit

US \$3000

### Auto-Board System 2.1 with: Fine Line, Multi-Layer, Tool Kit Surface Mount, & SMD Libraries

US \$3500

### Gerber Photo Plotting Interface Tool Kit

US \$500

US \$500

### Auto Board System 2.1 upgrade

US \$150

### The Auto-Board System Includes:

Schematic Capture Software + Generic Symbol Library  
Component Placement + Parts Library  
50 Mill Grid Auto Router + Parts Library  
layout Place Aid, Custom Part Generator  
+ 2 coupons worth 50% off any Symbols Group

### Tool Kit Includes:

Net List Extraction, Formatter, and Comparator;  
Back Annotation; Part List Generator; Wire List  
Extraction; Design Rule Check; etc.

### Additional Schematic Library Packages available for:

TTL, CMOS, INTEL, RCA, MOTOROLA, MEMORY, LINEAR, HC

TERMS: UPS-COD, MONEY ORDER, WIRE TRANSFER, VISA,  
MC, AND AMEX.

DEALER INQUIRIES ARE WELCOMED

## THE GREAT SOUTHWESTERN COMPANY, INC.

207 W. HICKORY ST., #202  
DENTON, TEXAS 76201  
U.S.A.

(817) 383-4434

(800) 231-6880

TLX 265792 GSWST UR

FAX (214) 661-1096



\*\*\*THE GREAT SOFTWESTERN COMPANY ANNOUNCES\*\*\*

GERBER PHOTO PLOTTING

We are please to be able to release conversion software that allows you to take an "AutoCad" drawing and convert them to the Gerber format.

This is a stand alone option, because of this you will not have to have The Auto Board system to work with it.

With our menu driven system, the program is very easy to operate. It has three modes that can be run:

- 1) By the menu system (for the first time user)
- 2) "Advanced" mode (not using any menus)
- 3) And a batch conversion method.

Written around Auto Cad Version 2.5, we handle complex things like:

- A) layers names of your choice,
- B) nested blocks,
- C) polylines, etc.

And of course you can specify the flash apertures used, draw apertures, optimizing, and more!

This package is shipping today, and it's cost is \$500.00, US, and is available from your local dealer.